



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,227	12/11/2001	Benoit R. Veillette	US010594	3093

24737 7590 01/18/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
----------

TAYLOR, BARRY W

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/014,227	Applicant(s) VEILLETTE, BENOIT R.	
	Examiner Barry W. Taylor	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,8-10,12,13,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 5-7,11 and 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 16 is objected to because of the following informalities: Claim 16 depends upon claim 14. However, claim 14 has been withdrawn. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 11 recites the limitation "said servo-loop circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "said servo-loop circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 8-10, 12-13, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Barnes et al (2003/0048698 hereinafter Barnes).

Regarding claim 1. Applicants openly admit that prior art teaches a receiver circuit (see RECEIVER in figure 1), comprising:

a switch for blocking high voltages and for converting voltage signals to current signals (see T/R switch in figure 1), said switch comprising first and second signal terminals (see conventional T/R switch depicted in figure 4B wherein first terminal is labeled as 405 and second terminal labeled as 410) and a control terminal (see control terminal labeled as 400 figure 4B) said switching exhibiting an ON resistance when closed, said ON resistance controlled by an electric value at said control terminal;

a control circuit coupled to said switch for controlling said ON resistance of said switch in closed position (see figure 4A and Applicants admitted prior art at top of page 4 in Applicants specification wherein control circuit shown used to control resistance of T/R switch shown in figure 4B).

According to Applicant, prior art (i.e. Applicants figure 5) fails to use control circuit (i.e. see transducer output "Vin" in Applicants figure 6) coupled to the T/R switch shown in Applicants figure 5 (see amendment to claims and remarks, paper dated 11/7/05).

Barnes teaches control circuit used for turn ON and turn OFF mode (title, abstract). Barnes uses control circuit to selectively turn on resistor during transmit and receive modes (paragraph 0041 and figure 4).

It would have been obvious for any one of ordinary skill in the art at the time of invention to use the control circuit as taught by Barnes into the teachings of Applicants admitted prior art in order to selectively control the T/R switch to switch into high

impedance when in transmit mode and switch into low impedance mode when in receive mode.

Regarding claim 4. Applicants admit that receiver circuit of the low-noise amplifier circuit requires an input resistance (see  $R_i$  for LNA circuit shown in prior art figure 5) and a feedback resistance (see  $R_f$  for LNA circuit shown in prior art figure 5), and further wherein on resistance of switch is input resistance of said low-noise amplifier circuit (see  $R_{ON}$  of switch inputted to resistance of LNA figure 5).

Regarding claim 8. Applicants openly admit that prior art teaches a receiver circuit (see RECEIVER in figure 1), comprising:

a T/R switch for blocking high voltages and for converting voltage signals to current signals (see T/R switch in figure 1), said T/R switch comprising first and second signal terminals (see conventional T/R switch depicted in figure 4B wherein first terminal is labeled as 405 and second terminal labeled as 410;

a low-noise amplifier (see LNA of admitted prior art figure 5) for amplifying low-voltage pulses while minimizing electronic noise, said amplifier circuit requiring an input resistance (see  $R_i$  figure 5) and feedback resistance (see  $R_f$  figure 5), wherein said input resistance is said ON resistance of said T/R switch (see figure 5 wherein  $R_{ON}$  of switch must match input impedance of LNA).

According to Applicant, prior art (i.e. Applicants figure 5) fails to use control circuit (i.e. see transducer output "Vin" in Applicants figure 6) coupled to the T/R switch shown in Applicants figure 5 (see amendment to claims and remarks, paper dated 11/7/05).

Barnes teaches control circuit used for turn ON and turn OFF mode (title, abstract). Barnes uses control circuit to selectively turn on resistor during transmit and receive modes (paragraph 0041 and figure 4).

It would have been obvious for any one of ordinary skill in the art at the time of invention to use the control circuit as taught by Barnes into the teachings of Applicants admitted prior art in order to selectively control the T/R switch to switch into high impedance when in transmit mode and switch into low impedance mode when in receive mode.

Regarding claim 9. Applicants already admit that prior art teaches control terminal (see control terminal labeled as 400 figure 4B) said switching exhibiting an ON resistance when closed, said ON resistance controlled by an electric value at said control terminal, the receiver circuit further comprising a control circuit coupled to said switch for controlling said ON resistance of said switch in closed position (see figure 4A and Applicants admitted prior art at top of page 4 in Applicants specification wherein control circuit shown used to control resistance of T/R switch shown in figure 4B).

Regarding claims 10 and 12. Barnes teaches control circuit used for turn ON and turn OFF mode (title, abstract). Barnes uses control circuit to selectively turn on resistor during transmit and receive modes (paragraph 0041 and figure 4).

Regarding claim 13. Method claim 13 is rejected for the same reason as apparatus claims 1 and 8 since the recited apparatus would perform the claimed method steps.

Regarding claim 15. Applicants admit that conventional T/R switch is open during transmission time and closed during a reception time (see Applicants specification page 3 line 19 – page 4 line 24).

Regarding claim 16. Applicants admit that receiver circuit of claim 2 wherein low-noise amplifier circuit requires an input resistance (see  $R_i$  for LNA circuit shown in prior art figure 5) and a feedback resistance (see  $R_F$  for LNA circuit shown in prior art figure 5), and further wherein on resistance of switch is input resistance of said low-noise amplifier circuit (see  $R_O$  of switch inputted to resistance of LNA figure 5).

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1, 4-13 and 15-19 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

5. Claims 5-7, 11 (only after 112 issue resolved) and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Friday, 8am to 5pm.

Art Unit: 2643

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (571) 272-7499. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Centralized Delivery Policy:** For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number **(571-273-8300)**.

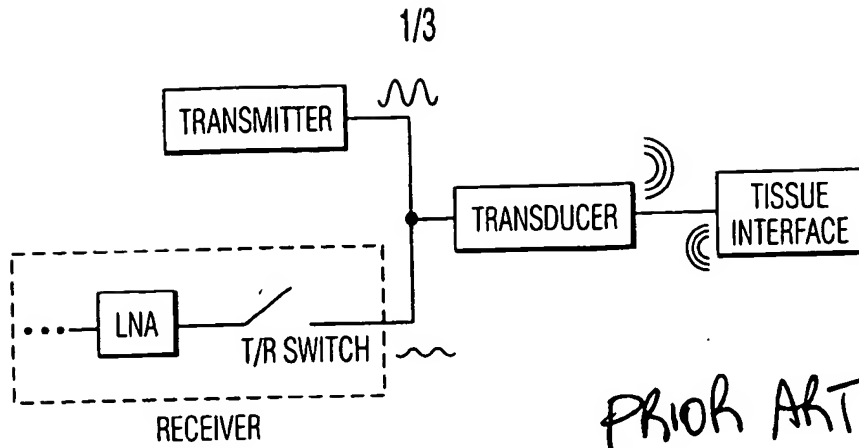


**BARRY TAYLOR**  
PRIMARY EXAMINER



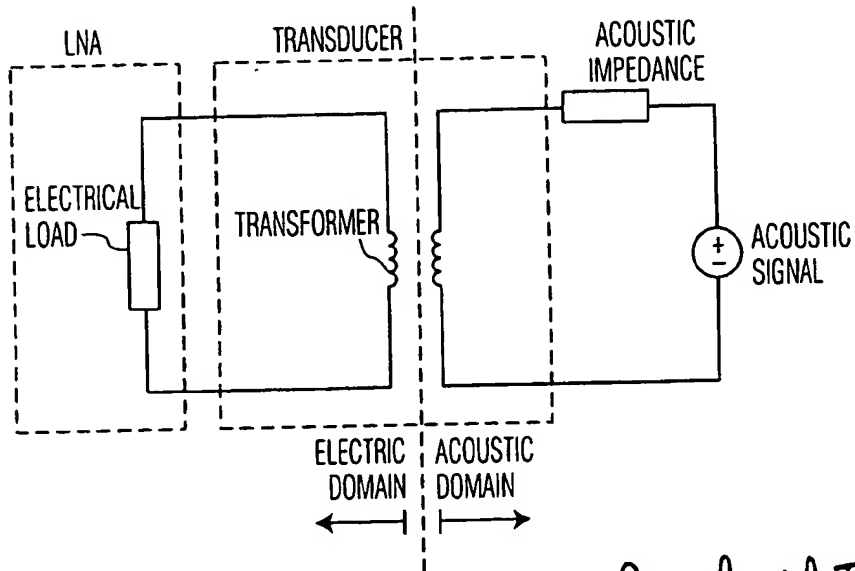


Approved  
BET  
1/12/06



PRIOR ART

FIG. 1



PRIOR ART

FIG. 2

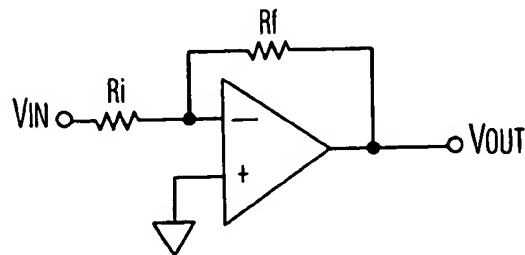


FIG. 3

PRIOR ART



Approved  
BOT  
11/21/06

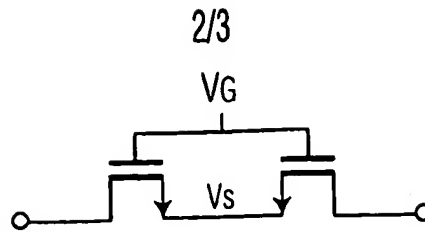


FIG. 4A

Prior Art

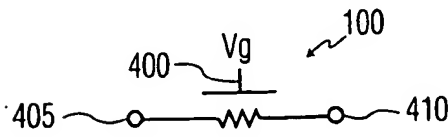


FIG. 4B

Prior Art

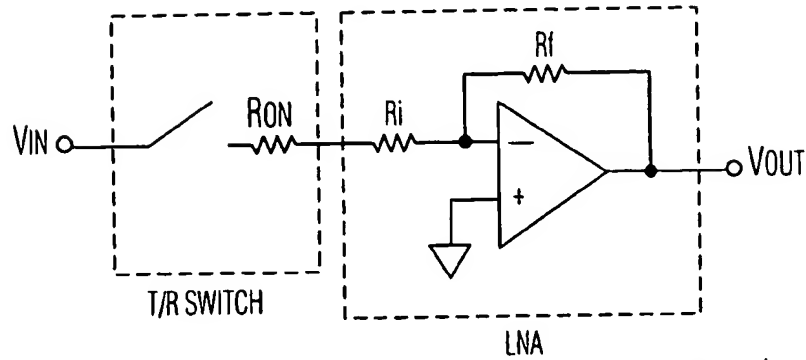


FIG. 5

Prior Art

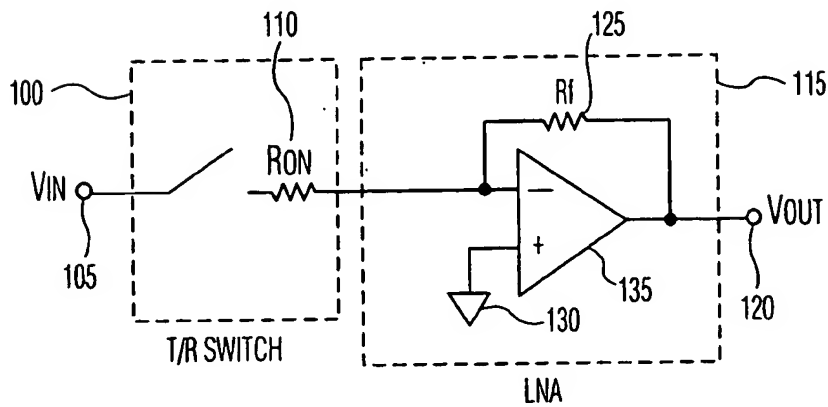


FIG. 6



Approved  
BUT  
11/2/06

3/3

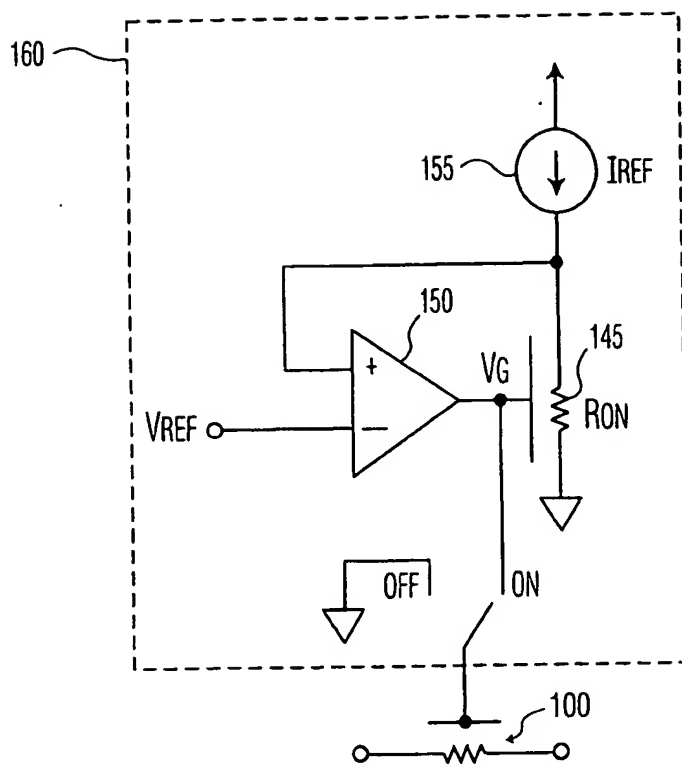


FIG. 7